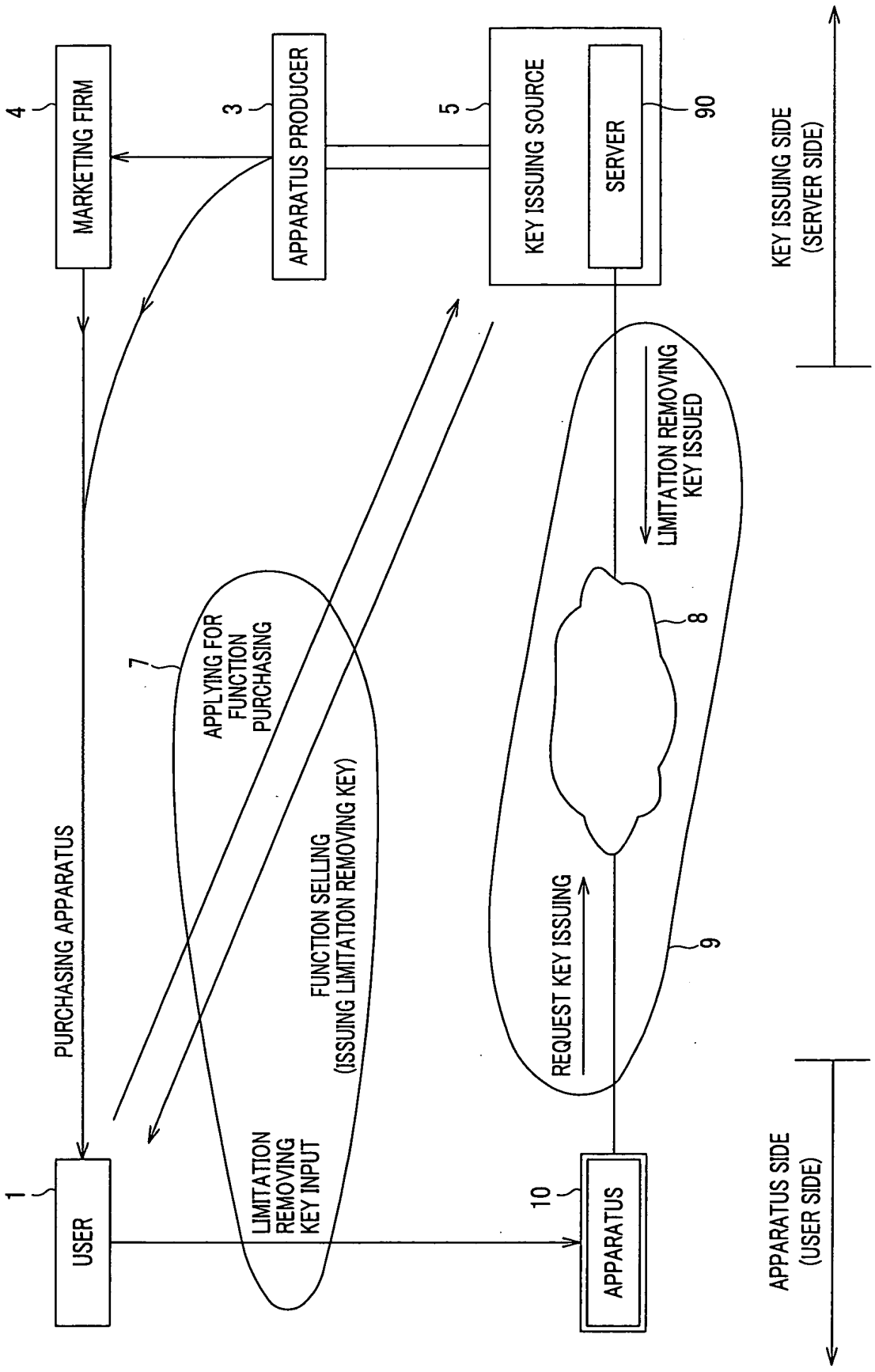
4
MARKETING FIRM
3
APPARATUS PRODUCER
5
KEY ISSUING SOURCE
SERVER
90
KEY ISSUING SIDE
(SERVER SIDE)
PURCHASING APPARATUS
7
APPLYING FOR
FUNCTION
PURCHASING
FUNCTION SELLING
(ISSUING LIMITATION REMOVING KEY)
LIMITATION REMOVING
KEY ISSUED
8
REQUEST KEY ISSUING
9
1
USER
LIMITATION
REMOVING
KEY INPUT
10
APPARATUS
APPARATUS SIDE
(USER SIDE)

FIG.1

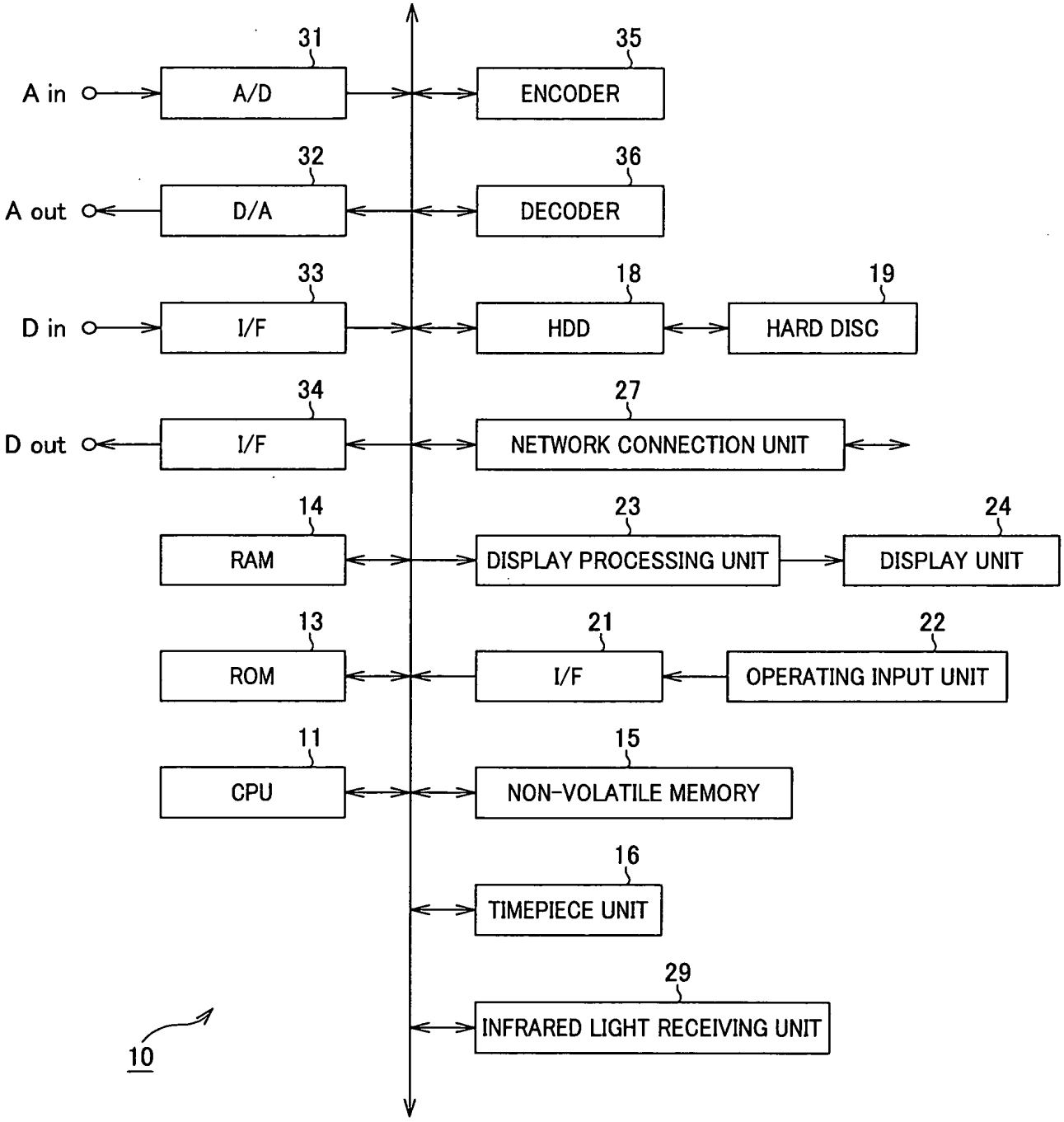
31
35
A in
A/D
ENCODER
32
36
A out
D/A
DECODER
33
18
19
D in
I/F
HDD
HARD DISC
34
27
D out
I/F
NETWORK CONNECTION UNIT
14
23
24
RAM
DISPLAY PROCESSING UNIT
DISPLAY UNIT
13
21
22
ROM
I/F
OPERATING INPUT UNIT
11
15
CPU
NON-VOLATILE MEMORY
16
TIMEPIECE UNIT
29
INFRARED LIGHT RECEIVING UNIT
10

FIG.2

FIG.3A

Setting table (initial state)

| Function | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| Function limiting flag | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |

| Number of days of possible test use | 30 days |
|---|---|

FIG.3B

Setting table (initial state)

| Function | E | F | G |
|---|---|---|---|
| Number of days of actual test use | 0 | 0 | 0 |

FIG.3C

Setting table (after test use)

| Function | E | F | G |
|---|---|---|---|
| Number of days of actual test use | 8 | 5 | 9 |

FIG.3D

Setting table (after purchase of function E)

| Function | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| Number of days of actual test use | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |

| Number of days of possible test use | 30 days |
|---|---|

FIG.3E

Setting table (after purchase of function F)

| Function | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| Number of days of actual test use | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |

| Number of days of possible test use | 30 days |
|---|---|

FIG.3F

Setting table (after purchase of functions E, F and G)

| Function | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| Number of days of actual test use | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Number of days of possible test use | 30 days |
|---|---|

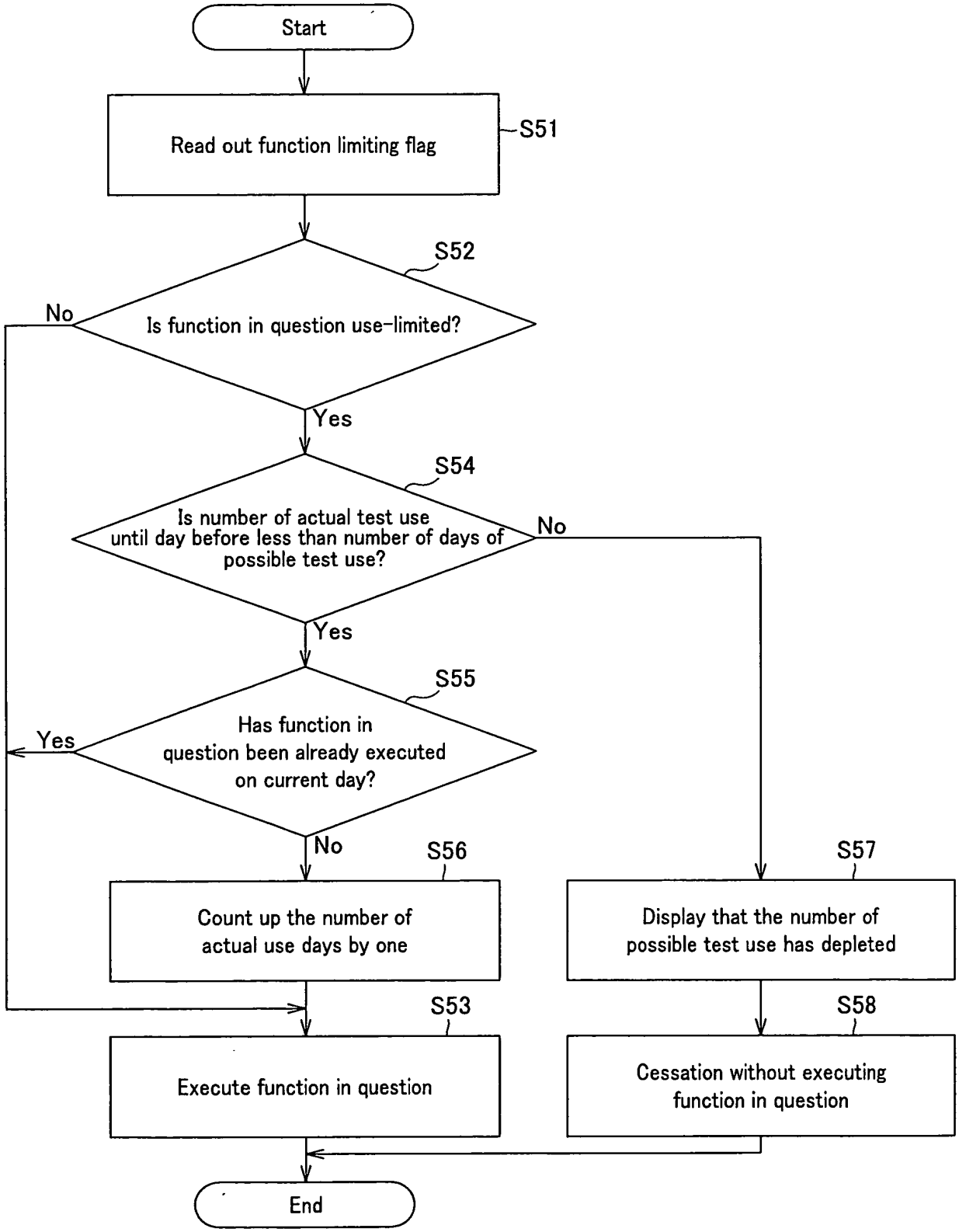
Start
Read out function limiting flag
S51
S52
Is function in question use-limited?
No
Yes
S54
Is number of actual test use until day before less than number of days of possible test use?
No
Yes
S55
Has function in question been already executed on current day?
Yes
No
S56
Count up the number of actual use days by one
S57
Display that the number of possible test use has depleted
S53
Execute function in question
S58
Cessation without executing function in question
End

FIG.4

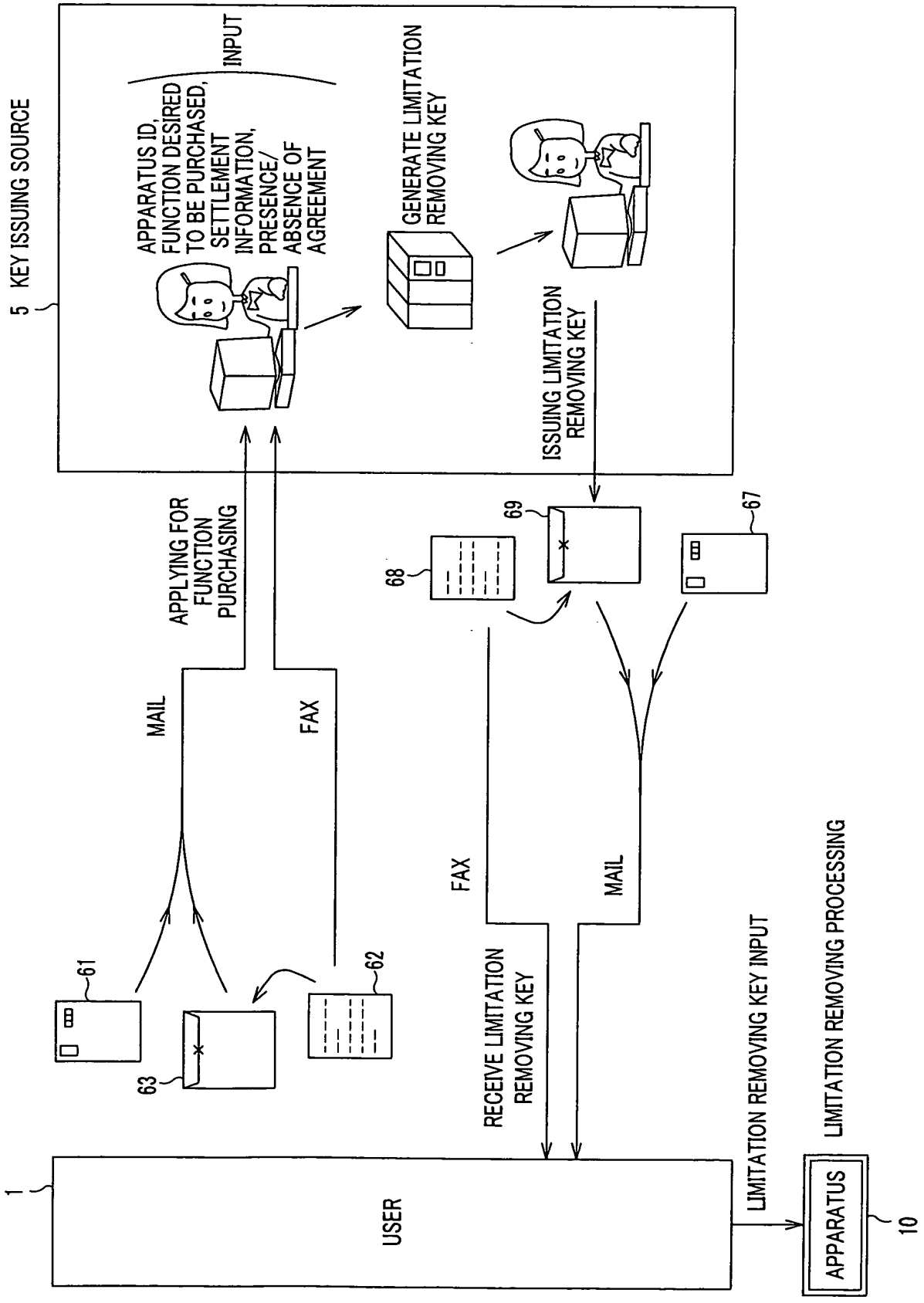
5 KEY ISSUING SOURCE
INPUT
APPARATUS ID, FUNCTION DESIRED TO BE PURCHASED, SETTLEMENT INFORMATION, PRESENCE/ ABSENCE OF AGREEMENT
GENERATE LIMITATION REMOVING KEY
ISSUING LIMITATION REMOVING KEY
APPLYING FOR FUNCTION PURCHASING
MAIL
FAX
61
62
63
68
69
67
FAX
MAIL
RECEIVE LIMITATION REMOVING KEY
LIMITATION REMOVING KEY INPUT
LIMITATION REMOVING PROCESSING
1
USER
APPARATUS
10

FIG.5

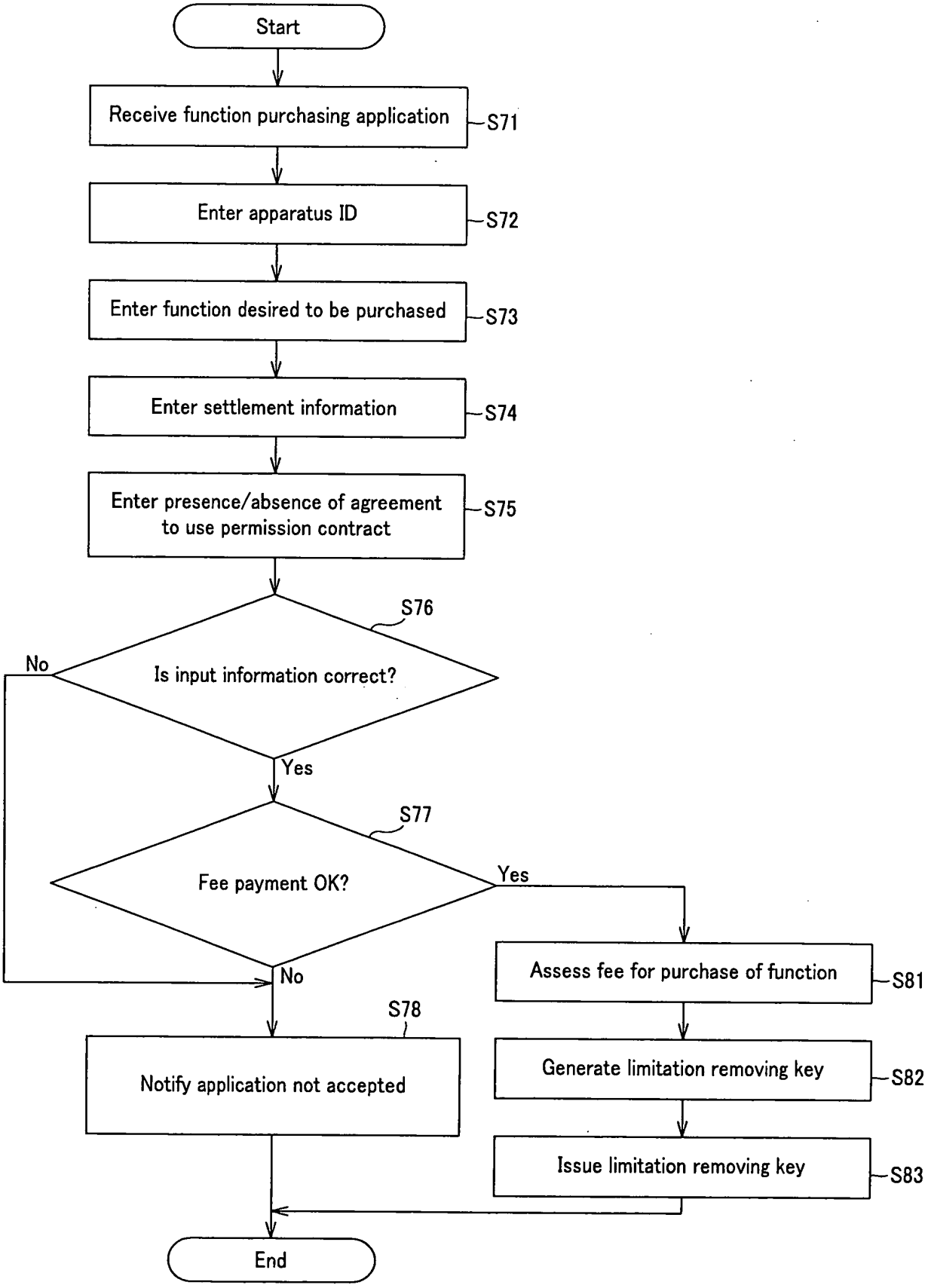
Start
Receive function purchasing application
S71
Enter apparatus ID
S72
Enter function desired to be purchased
S73
Enter settlement information
S74
Enter presence/absence of agreement to use permission contract
S75
S76
Is input information correct?
No
Yes
S77
Fee payment OK?
Yes
No
Assess fee for purchase of function
S81
Generate limitation removing key
S82
Issue limitation removing key
S83
S78
Notify application not accepted
End

FIG.6

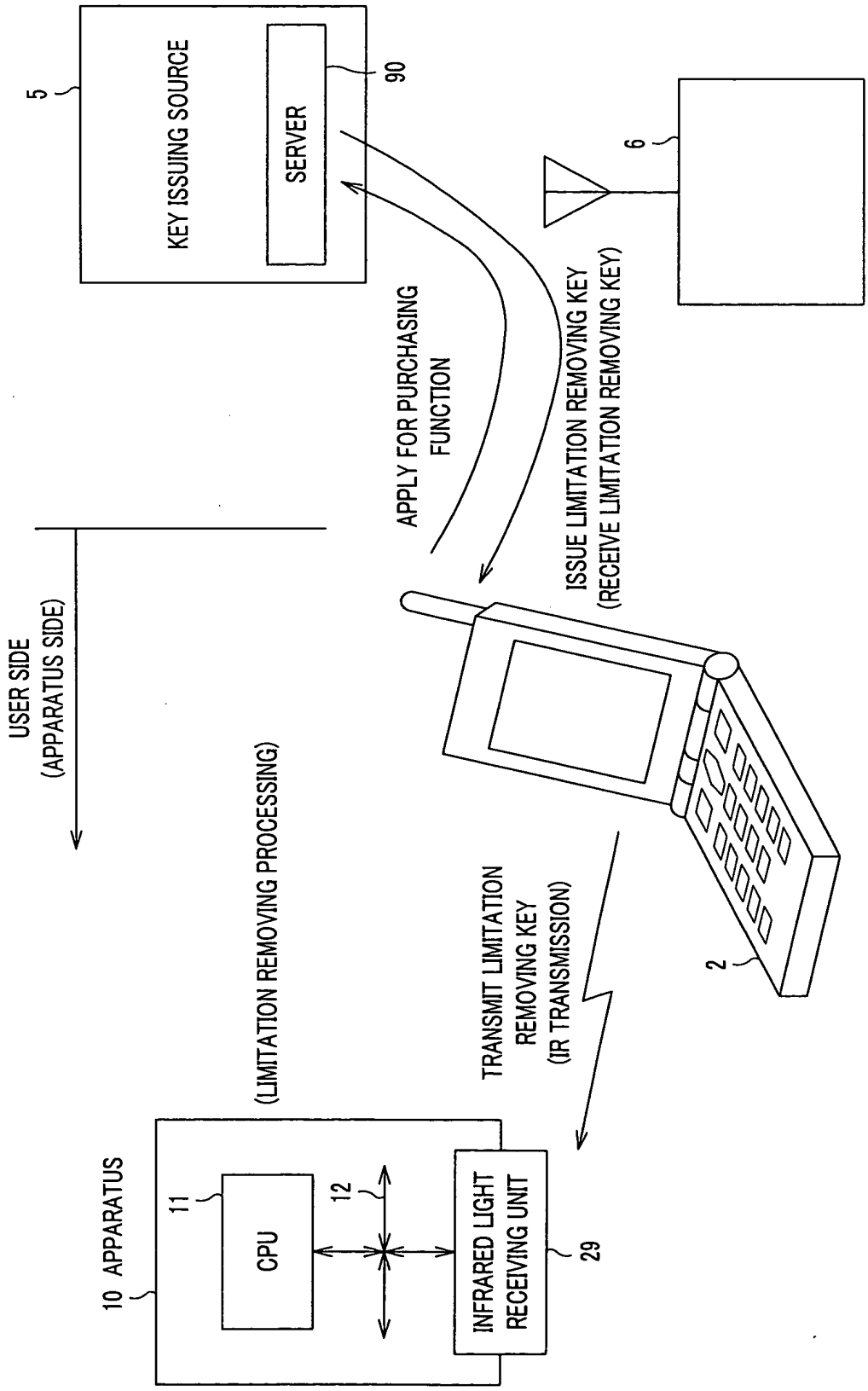
5
KEY ISSUING SOURCE
SERVER
90
6
APPLY FOR PURCHASING FUNCTION
ISSUE LIMITATION REMOVING KEY (RECEIVE LIMITATION REMOVING KEY)
USER SIDE (APPARATUS SIDE)
(LIMITATION REMOVING PROCESSING)
TRANSMIT LIMITATION REMOVING KEY (IR TRANSMISSION)
2
10 APPARATUS
11
CPU
12
INFRARED LIGHT RECEIVING UNIT
29

FIG.7

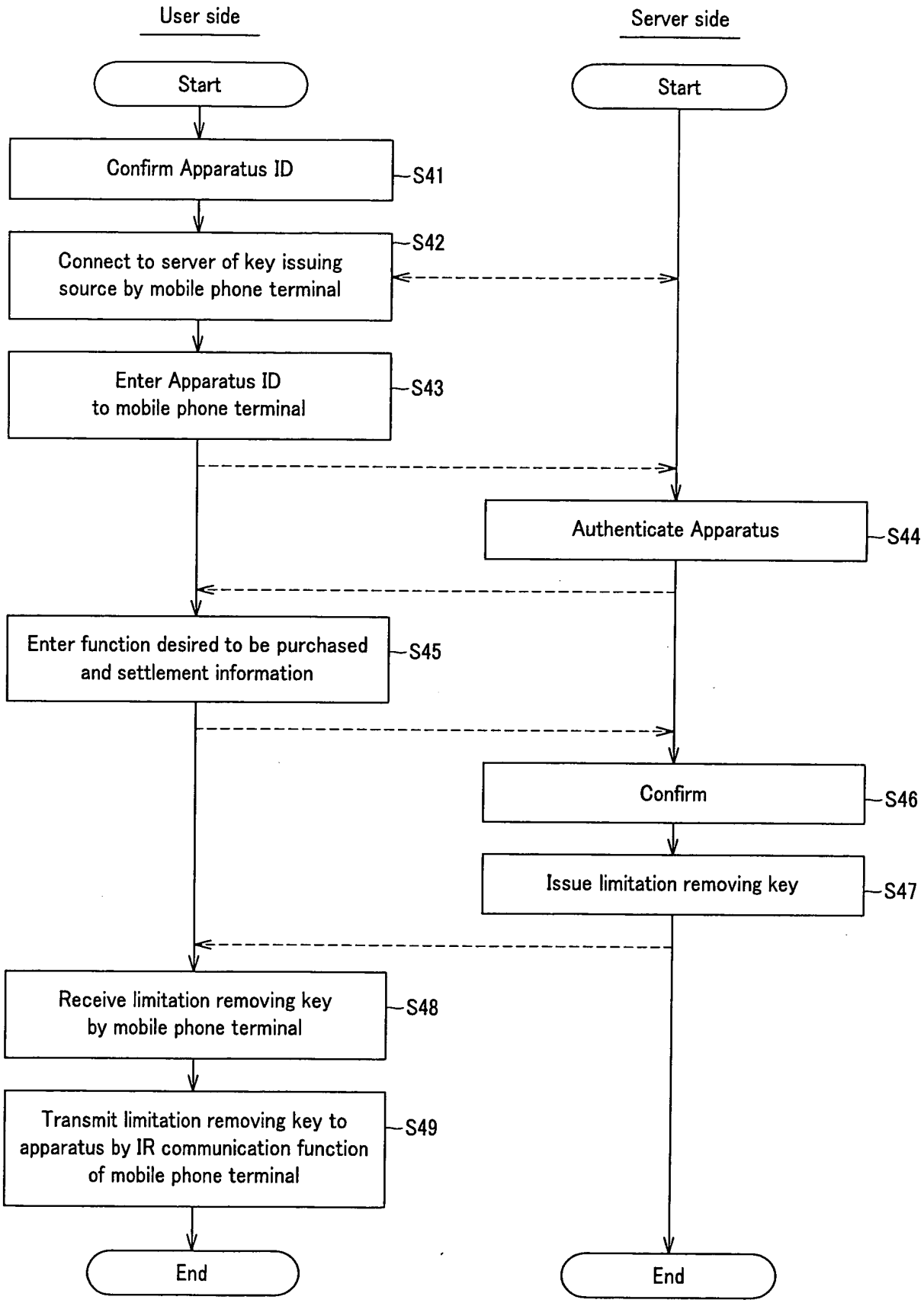
User side
Server side
Start
Start
Confirm Apparatus ID
S41
Connect to server of key issuing source by mobile phone terminal
S42
Enter Apparatus ID to mobile phone terminal
S43
Authenticate Apparatus
S44
Enter function desired to be purchased and settlement information
S45
Confirm
S46
Issue limitation removing key
S47
Receive limitation removing key by mobile phone terminal
S48
Transmit limitation removing key to apparatus by IR communication function of mobile phone terminal
S49
End
End

FIG.8

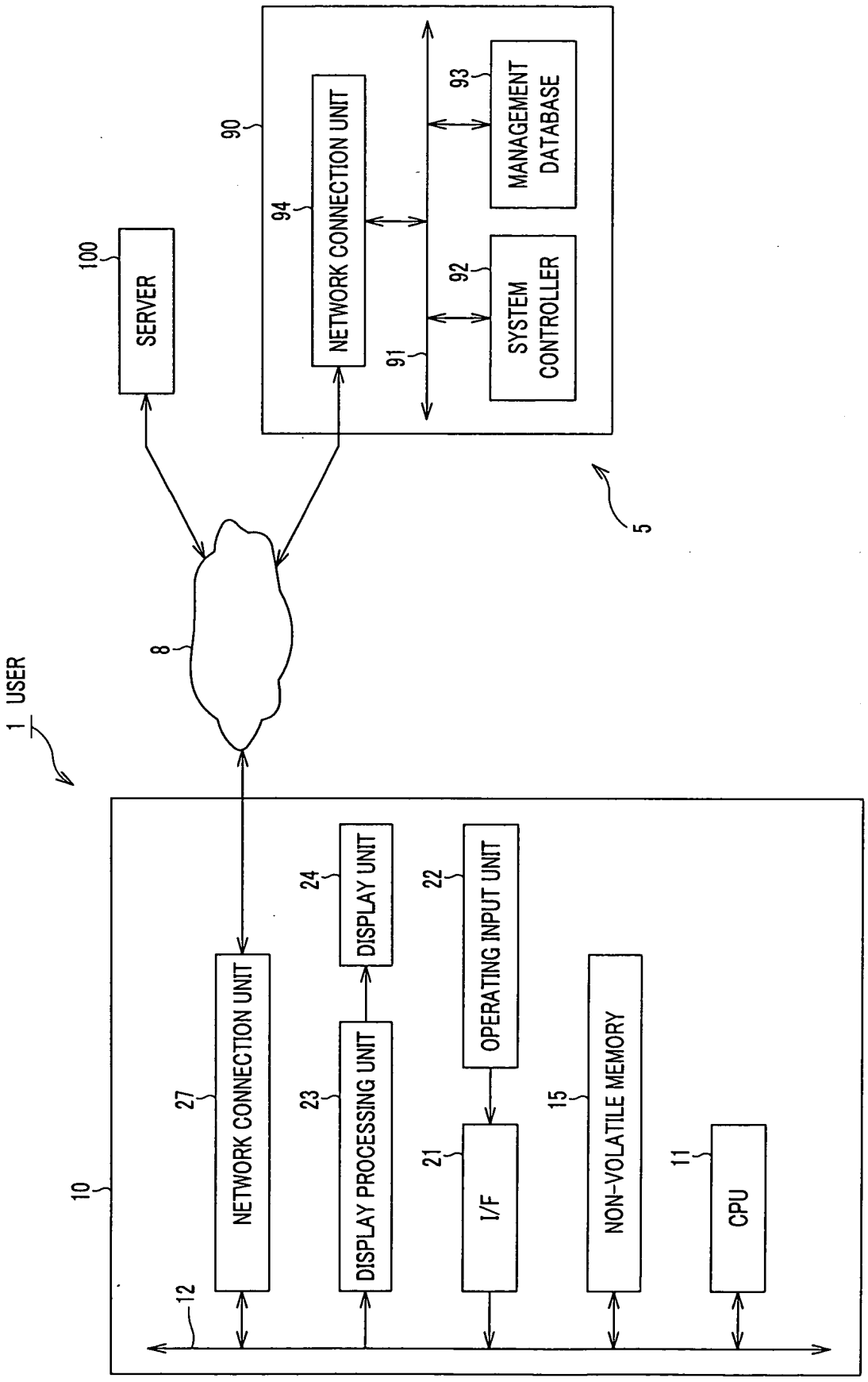
1 USER
10
12
NETWORK CONNECTION UNIT
27
DISPLAY PROCESSING UNIT
23
DISPLAY UNIT
24
I/F
21
OPERATING INPUT UNIT
22
NON-VOLATILE MEMORY
15
CPU
11
8
SERVER
100
90
NETWORK CONNECTION UNIT
94
SYSTEM CONTROLLER
92
MANAGEMENT DATABASE
93
91
5

FIG.9

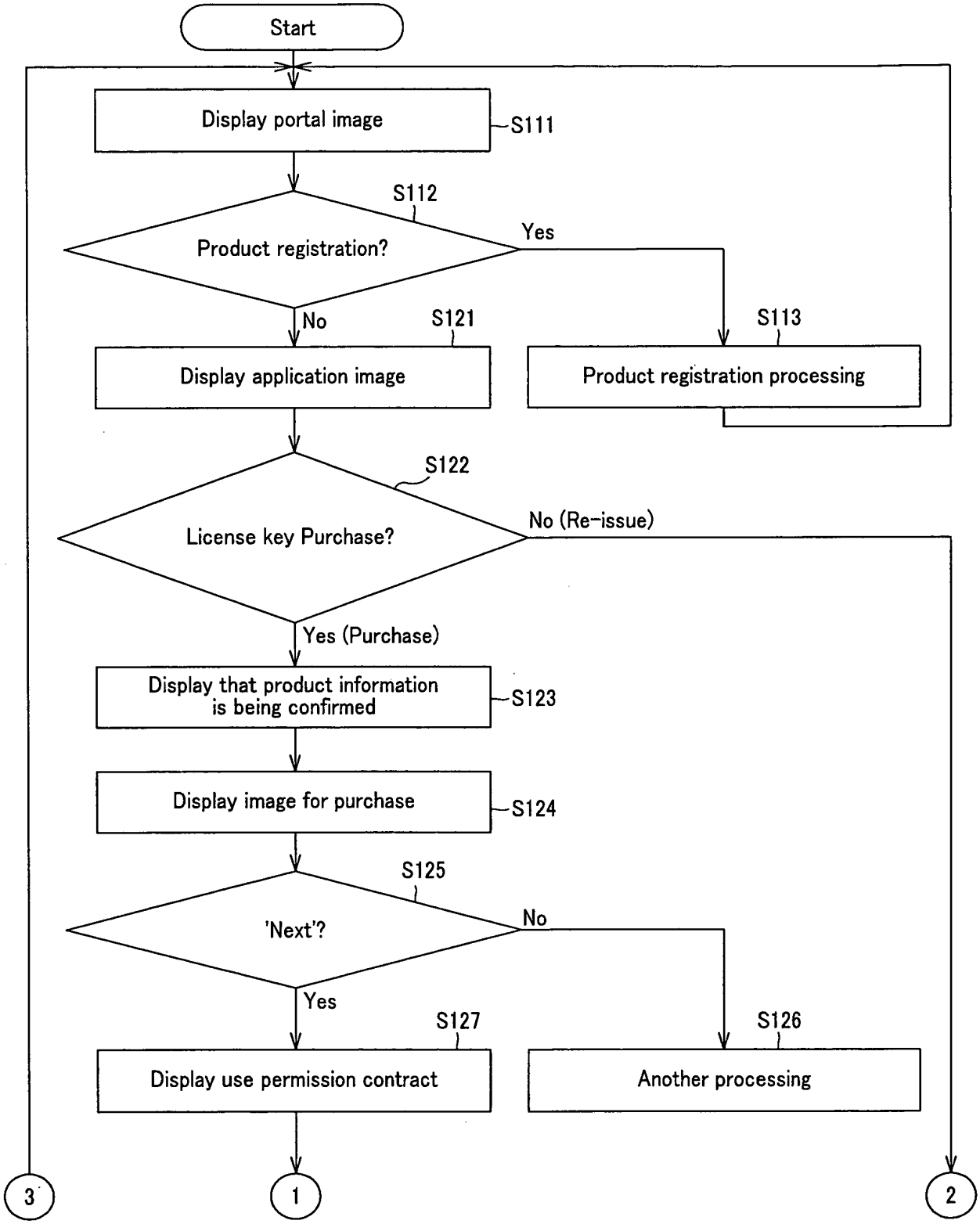
Start
Display portal image
S111
S112
Product registration?
Yes
No
S121
S113
Display application image
Product registration processing
S122
License key Purchase?
No (Re-issue)
Yes (Purchase)
Display that product information is being confirmed
S123
Display image for purchase
S124
S125
'Next'?
No
Yes
S127
S126
Display use permission contract
Another processing
3
1
2

FIG. 10

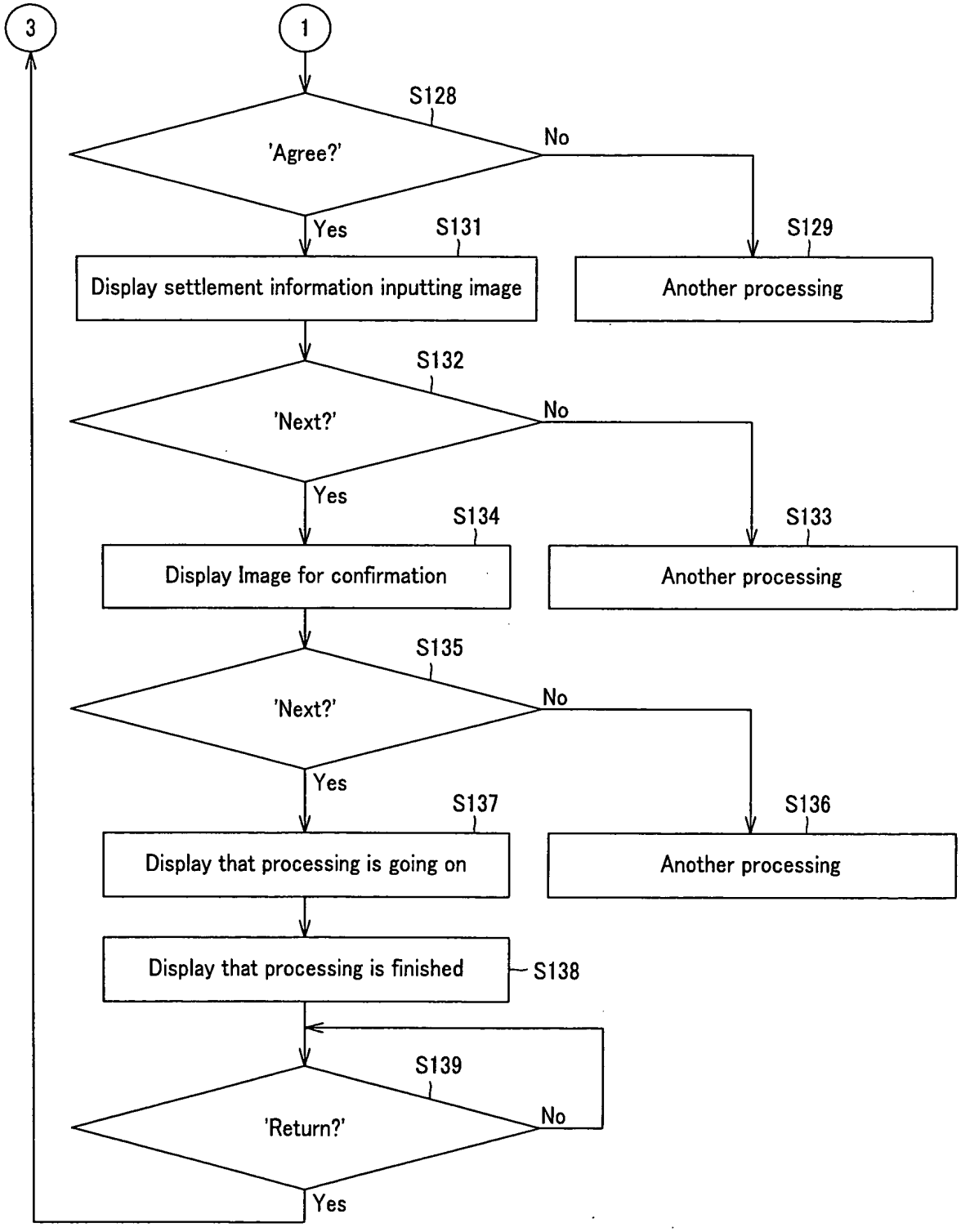
3
1
S128
'Agree?'
No
Yes
S131
Display settlement information inputting image
S129
Another processing
S132
'Next?'
No
Yes
S134
Display Image for confirmation
S133
Another processing
S135
'Next?'
No
Yes
S137
Display that processing is going on
S136
Another processing
Display that processing is finished
S138
S139
'Return?'
No
Yes

FIG.11

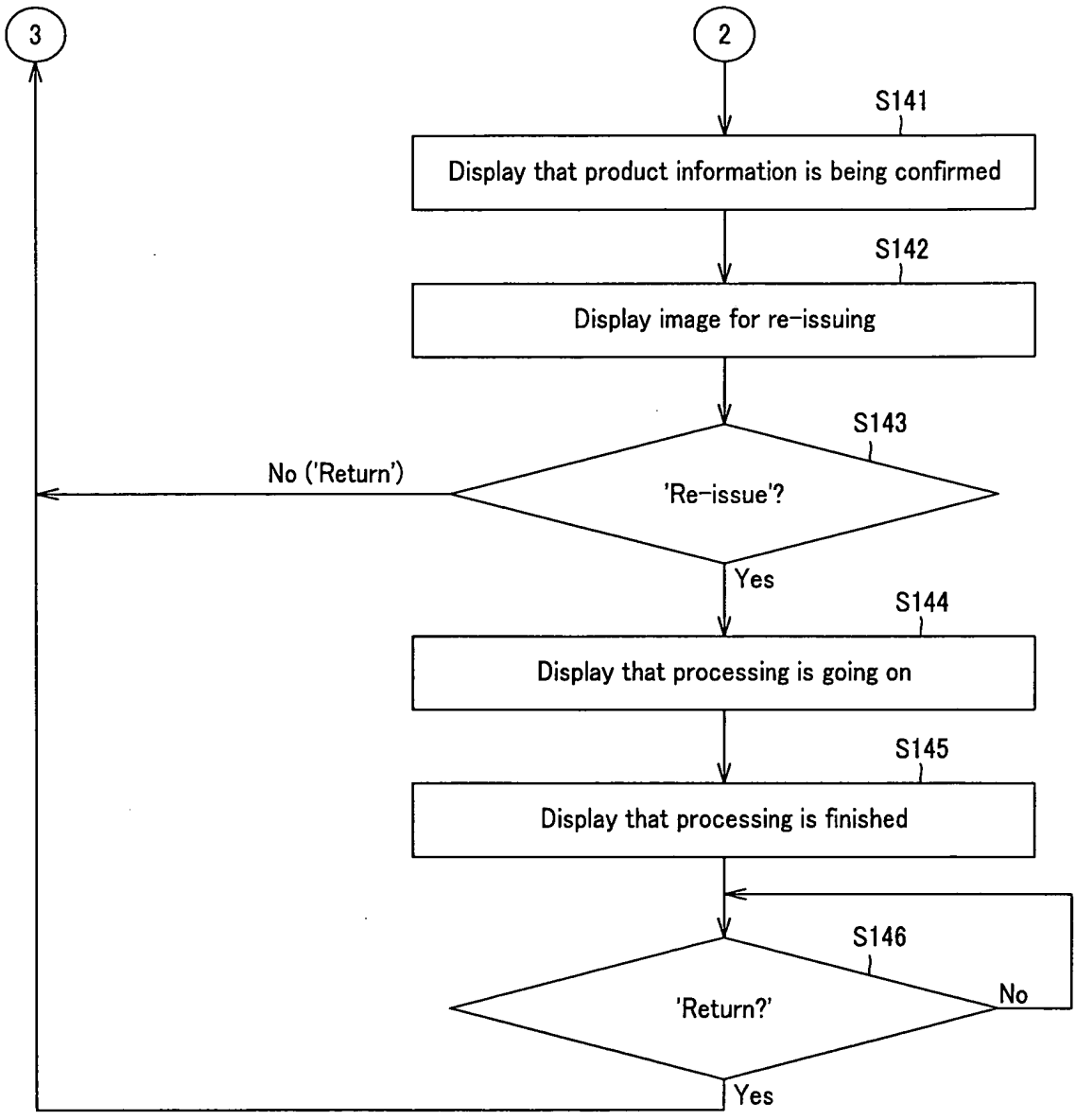
3
2
S141
Display that product information is being confirmed
S142
Display image for re-issuing
S143
'Re-issue'?
No ('Return')
Yes
S144
Display that processing is going on
S145
Display that processing is finished
S146
'Return?'
No
Yes

FIG.12

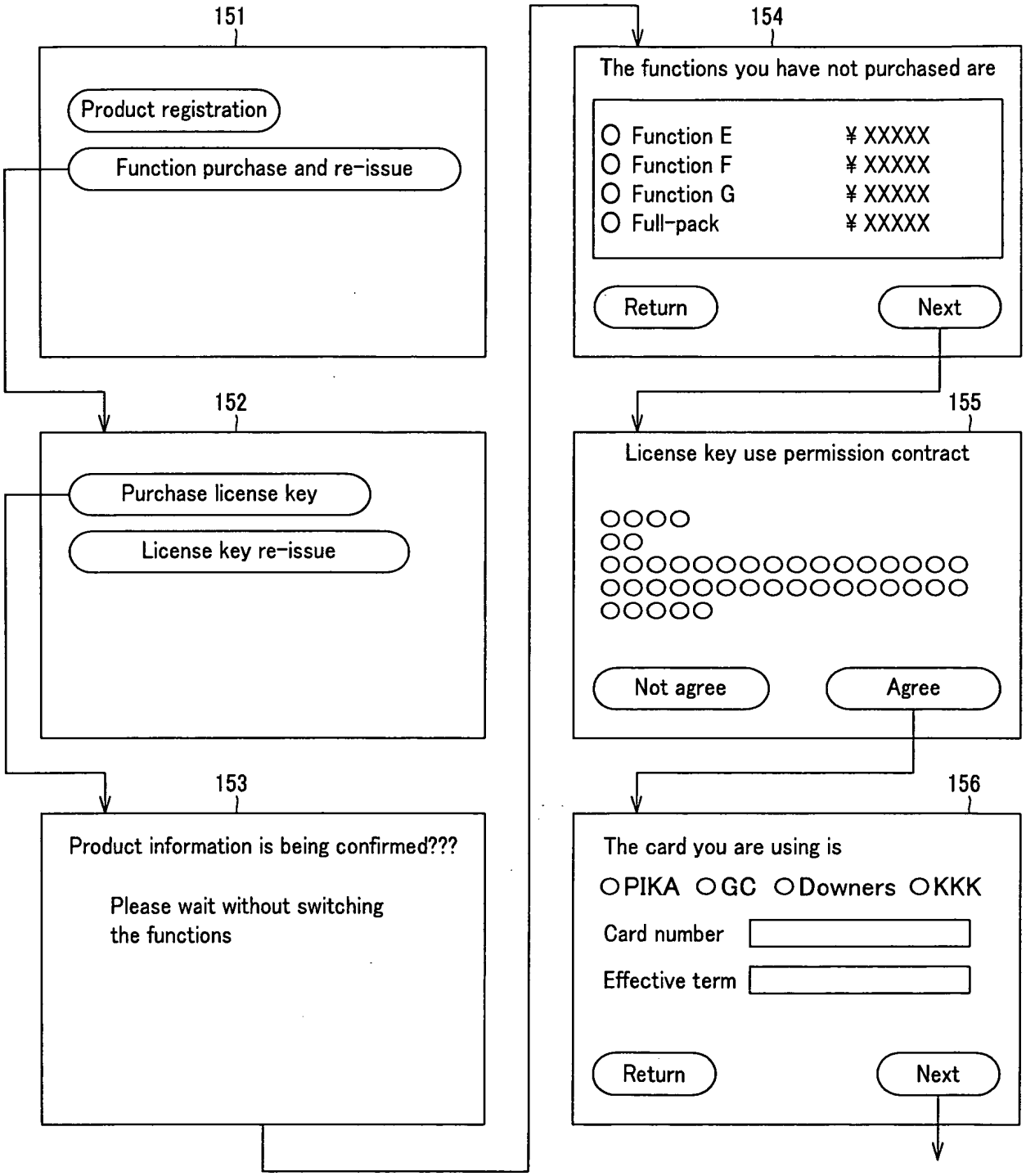
151
Product registration
Function purchase and re-issue
152
Purchase license key
License key re-issue
153
Product information is being confirmed???
Please wait without switching the functions
154
The functions you have not purchased are
O Function E ¥ XXXXX
O Function F ¥ XXXXX
O Function G ¥ XXXXX
O Full-pack ¥ XXXXX
Return
Next
155
License key use permission contract
Not agree
Agree
156
The card you are using is
O PIKA O GC O Downers O KKK
Card number
Effective term
Return
Next

FIG.13

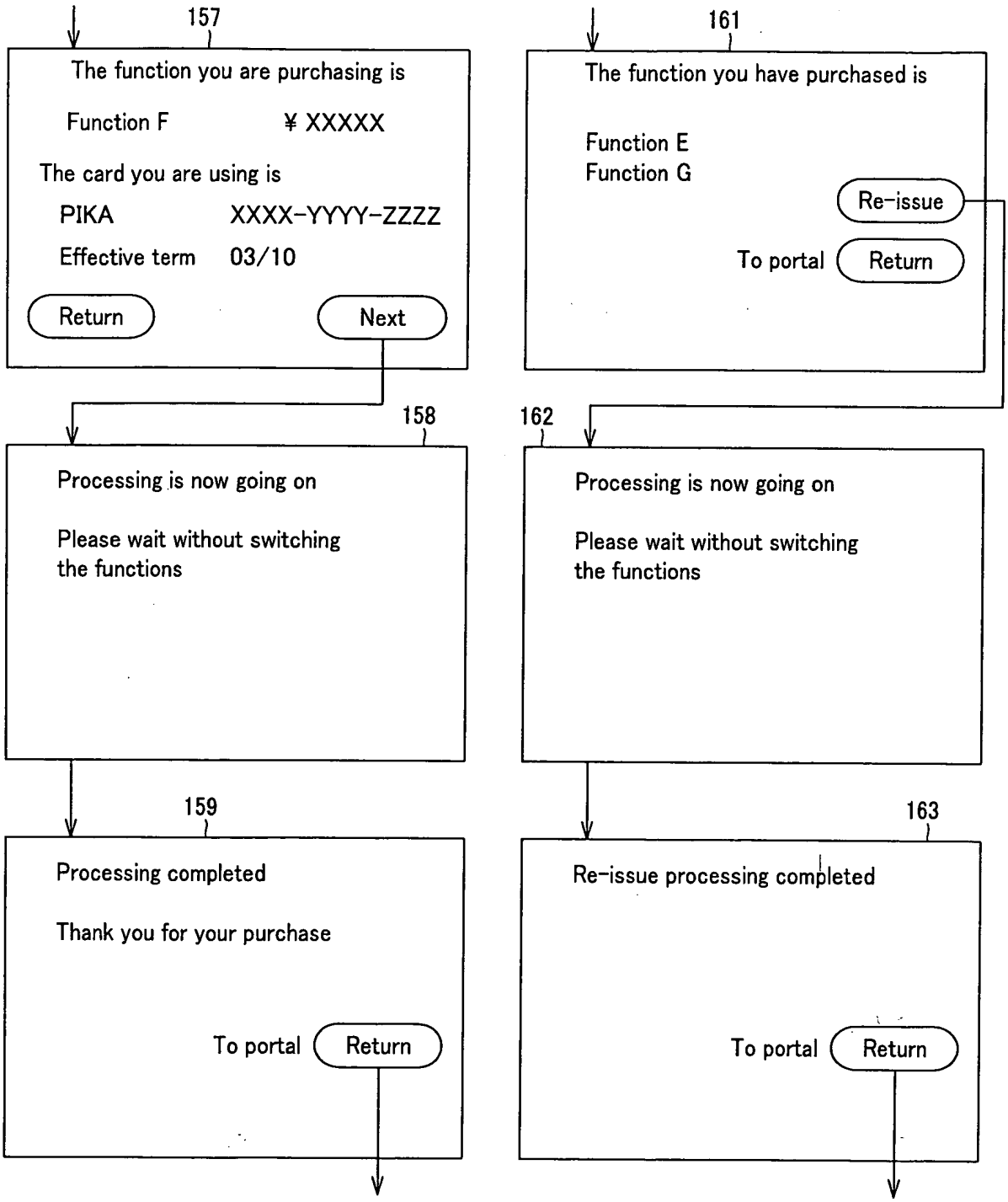
157
The function you are purchasing is
Function F ¥ XXXXX
The card you are using is
PIKA XXXX-YYYY-ZZZZ
Effective term 03/10
Return
Next
158
Processing is now going on
Please wait without switching the functions
159
Processing completed
Thank you for your purchase
To portal
Return
161
The function you have purchased is
Function E
Function G
Re-issue
To portal
Return
162
Processing is now going on
Please wait without switching the functions
163
Re-issue processing completed
To portal
Return

FIG. 14

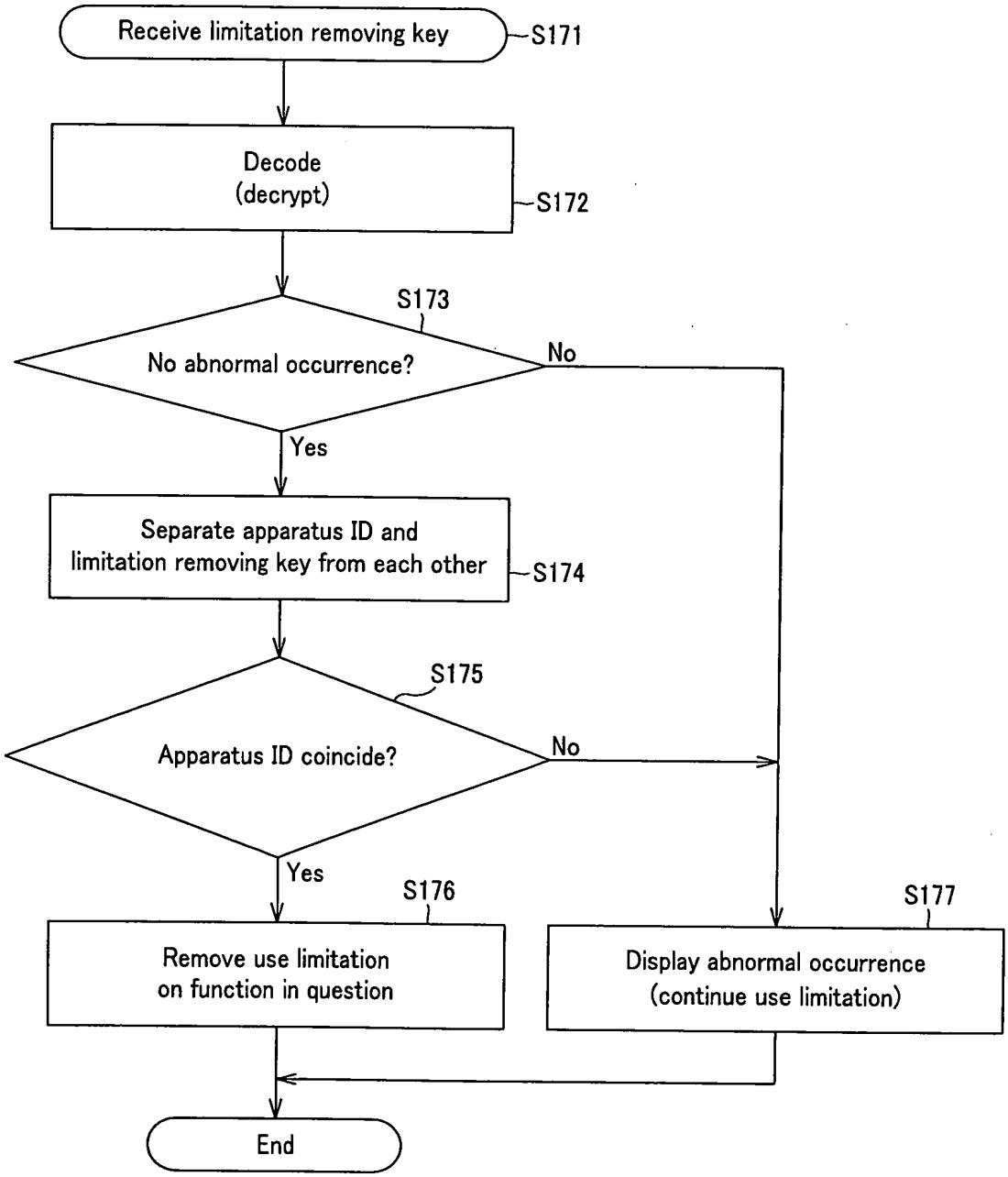
Receive limitation removing key
S171
Decode
(decrypt)
S172
S173
No abnormal occurrence?
No
Yes
Separate apparatus ID and
limitation removing key from each other
S174
S175
Apparatus ID coincide?
No
Yes
S176
Remove use limitation
on function in question
S177
Display abnormal occurrence
(continue use limitation)
End

FIG. 15